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Article

The Role of Generative Artificial Intelligence (GenAI) in Enhancing Self-Learning and Developing Employees' Digital Skills: An Applied Study in the Oil Products Distribution Authority in the Middle Euphrates Region

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Abstract: Research aims to study role intelligence artificial genital (GenAI) in strengthening learning self and development skills digital have employees, from during research applied in body distribution products oil in euphrates the middle it starts. The problem research from presence gap note in level skills digital have some employees, weakness accreditation on methods learning self modern, which limits from effectiveness programs development job traditional. It is assumed that employment technologies intelligence artificial obstetric, like models linguistic Interactive, maybe that contributes in to improve abilities employees via to provide environment to learn flexible interactive it depends on Guidance Immediate, and simplification concepts administrative and technology, Presentation content its training custom according to needs the learner adopted. Search curriculum descriptive analytical, with application tool questionnaire on sample from employees the authority addition to Interviews with some officials in units training and development. It includes analysis measurement level awareness with intelligence artificial, and extent use its tools in learning self, and impact that on development Skills digital like use applications office, and management data, and dealing with Systems electronic and from expected that show results presence relationship positive between use tools GenAI and increase efficiency learning self please on to improve clear in level skills digital have the employees. As well Seeks Search to presentation model applied maybe Its adoption inside the foundation to merge intelligence artificial in Programs training and development continuous and concludes Search to that intelligence artificial obstetric it represents tool strategy effective to support transformation digital in Institutions governmental, provided availability environment organizational supportive and policies clear Include usage optimum for this technologies.

Keywords: Intelligence Artificial Generative (GenAI) Learning Self, Skills Digital for Employees, The Authority Distribution Products Oil in Euphrates Middle

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1. Introduction

Witness the world in years the last development accelerating in technologies intelligence artificial, no Sima intelligence artificial the generative (GenAI) become one most prominent tools technology influential in fields education training and development resources humanity and it is considered this type from intelligence artificial able on production content text and educational, presentation explanations Immediate, providing environments to learn interactive contributes in strengthening abilities Individuals on learning self don the need to approval complete on programs training traditional and in shadow transformation digital that witness it Institutions governmental, it emerged need to adoption tools modern contributes in to lift efficiency employees and development their

skills digital In what it aligns with requirements the job contemporary and it comes body distribution products oil in euphrates middle as described one institutions service the mission that dealing with systems employment and management complex requires levels high from efficiency digital accuracy in performance, which makes investment in development skills Its employees necessity salty and from this the starting point, seeks this search to study role intelligence artificial obstetric in strengthening learning Self and development skills digital have employees, from during analysis reality usage present for this technologies, and measurement bezel Its impact in to improve their abilities professionalism. As well focuses search on highlight potential that It provides GenAI in to support operations learning continuous, and facilitation access to knowledge, and allocation content educational according to needs individuals and it lies importance this the topic in being connects between technology modern and development head the money human inside institutions governmental, in what contributes in strengthening efficiency performance and investigation transformation digital In a way more effectiveness and sustainability.

2. Research Methodology

2.1 Research Methodology:

The research methodology includes the research problem, its importance, objectives, and hypothesis, in addition to the research population and sample, as well as the scientific method followed.

2.1.1 Research Problem:

It is problem search in presence weakness relative in level learning self have employees body distribution products oil in euphrates middle, to side limitations possession some skills digital modern that It requires environment the job advanced and transformation digital accelerated. As well suffering authority from approval marked on methods training traditional no keep up evolution technological the current one and from here It stands out question president around bezel possibility employment technologies intelligence artificial genital (GenAI) in strengthening learning self, and raised efficiency skills digital, and improving performance job inside authority In a way more effectiveness and sustainability.

2.1.2 Importance of the research:

Sources importance search from being it deals topic newly it is in employment intelligence artificial Genital (GenAI) in to support learning self and development skills digital have employees is what it aligns with requirements transformation digital in institutions governmental and it lies importance scientific in enrichment literature related with intelligence artificial and management resources humanity, while it is importance the process in help body distribution products oil in euphrates middle on to improve efficiency Its employees and raised level their performance. As well contributes search in presentation visions applied maybe benefit from it in design programs training modern It depends on technologies smart.

2.1.3 Research Objectives:

It aims search to study role intelligence artificial genital (GenAI) in strengthening learning self and development skills digital I have employees body distribution products oil in euphrates the middle. As well seeks to analysis level use tools intelligence artificial in environment the job current, and measurement Its effect in to improve abilities employees technology and cognitive and aims also to set relationship between learning Self Supported with technologies smart and level performance functional on presentation imagine applied maybe from during it to merge GenAI in programs training and development inside aauthority in what contributes in to support transformation digital and improving efficiency institutionalization.

2.1.4 Research hypotheses:

Based Search on The two hypotheses The following two:

a. No there is effect with indication statistics between intelligence artificial generative (GenAI) and learning self have employees in body distribution products oil in euphrates the middle.
b. No there is effect with indication statistics between intelligence artificial generative (GenAI) and development skills digital for employees in body distribution products oil in euphrates the middle.

2.1.5 Research population and sample:

It consists community search from all employees staff in body distribution products oil in euphrates middle, as they category targeted to measure level learning self and skills digital they have them. But sample search lost it was completed her choice in a way random class to ensure acting various sections and units administrative inside the authority and with Investigates accuracy and objectivity in collection aata and it aims sample to reverse reality use intelligence artificial obstetric and extent Its impact in development skills employees and improving their efficiency functional within environment the job.

2.1.6 Research Methodology:

It depend search curriculum descriptive analytical as the most suitable study the phenomenon under research, so it aims to a description reality use intelligence artificial genital (GenAI) in strengthening learning self and development skills digital I have employees body distribution products oil in euphrates middle, then analysis data field to explain relations between variables. As well used curriculum applied from during investigation opinions sample targeted, in what allows to understand effects actual for this technologies in environment the job and proposal solutions practical midwife for implementation.

2.2 Previous studies and the contribution of the current research:

This section will discuss previous studies related to the current research topic, in addition to explaining the contribution of the current research and how it differs from previous studies.

2.2.1 Previous Studies:

1. Study of Al Jabir entitled (Intelligence artificial obstetric And his role in to improve quality Content Educational Digital) [1]: aimed the study to research effectiveness use tools intelligence artificial obstetric in development content educational digital. It arrived the study to that this is amazing tools It is characterized quickly and allocation and diversity, but it you need to supervision human to ensure depth educational and consideration privacy cultural.
2. Study of Abu Khalaf entitled (Trends Future For training in shadow Applications intelligence Artificial) [2]: aimed the study to identification on reality training in shadow use applications intelligence artificial and anticipation his trends future. It has been concluded the study to that organized training digital smart represent future training, and contribute in to improve quality training and raised efficiency performance institutional.
3. A study by Al-Suhaimi, Al-Hafizi, Al-Shahri entitled (ImpactUse Technologies intelligence artificial obstetric The basis on Patterns Learning By discovery in development oven digital I have students Stage Secondary) [3]: aimed the study to discovery on effect patterns learning by discovery menu on intelligence artificial in development oven eigital. It arrived the study to superiority pattern discovery semi the guide in development skills oven digital comparison in the style the free.
4. Study of Al-Mughayriyah, Al-Mughairiya entitled (Intelligence artificial obstetric And his role in development skills the future I have Students Talented) [4]: It aimed the

study to discovery on role intelligence artificial obstetric in development skills the future have students talented and requirements hiring him. It arrived the study to that intelligence artificial enhances learning the allocated, and develops skills communication and thinking, with necessity to provide requirements administrative and technology and educational.

2.2.2 The contribution of the current research and how it differs from previous studies:

It differs search present on studies previous in his focus on the environment applied inside institutions governmental, specifically body distribution products oil in euphrates Middle, while focused Studies previous on fields education year and the students the talented. As well seeks search present to study effect intelligence artificial obstetric in strengthening learning self for employees and development their skills digital in environment a job administrative effective and contributes. The search in dam gap cognitive from during presentation model applied for use GenAI in training Institutional, and link technology modern by improving performance Job inside Institutions government In a way direct its work.

3. The Theoretical Aspect of the Research

3.1 intelligence artificial Generative (GenAI): The Concept and characteristics and applications in environment the job:

It knows intelligence artificial genoastrian (GenAI) is defined as one branches intelligence artificial the capable on production content new includes texts and the pictures and data based on to patterns Learn it from quantities huge from data previous, It is characterized with his ability on simulation the language humanity and generation responses Interactive high accuracy and it has become this the concept axis mainly in development systems dialogue smart like ChatGPT that it depends on models Linguistic the large one, which designed to improve interaction between man and the machine in environments educational and professionalism. As well it indicates this type from intelligence to transformation qualitative in road to treat Information production knowledge in a way to and interactive, which make him tool supportive to learn continuous in environments the job modern [5].

It is distinguished intelligence artificial obstetric several features main make it different on systems traditional for intelligence artificial, from the most prominent of them ability on interaction linguist natural, and generation content custom according to needs user, addition to learning continuous from data the new one. As well it is characterized with flexibility high in usage inside environments educational and professionalism, where maybe employing him in presentation explanations immediately, the answer on inquiries, and support operations taking the decision and it shows studies that this is amazing properties contributes in to improve an experience user and increase effectiveness learning, especially when Integrate it in environments digital interactive supports development professional continuous [6].

intelligence artificial become obstetric part whatever from environments educational modern, where It is used in to support operations learning self, and development content educational, providing environments educational Interactive it depends on dialogue the intelligent one. As well contributes in to improve performance students and employees from during presentation feeding return instant and allocation content educational according to level the learner and it indicates research to that use robots the conversation educational enhances from to understand content and it increases from motivation learning, which make it tool effective in to improve quality education training in Institutions the different ones [7].

In environments the job modern, it is used intelligence artificial obstetric to support operations administrative and improving efficiency performance institutional from during automation tasks routine providing solutions analytical smart help in taking the decision. As well contributes in development skills employees via presentation content training

custom It fits with their needs professionalism and it has it appeared frames modern like framework operations intelligent (FiOps) that merge between intelligence artificial work educational and the administrator to promote efficiency teachers and employees in the era digital, which reflects importance this type from technologies in to improve yield institutionalization [8].

On despite from advantages the large that it provides intelligence artificial obstetric, unless that there challenges related using it in environments the job, like cases accuracy information technology, and reliance excess on systems smart, and fears related privacy and security data. As well that Integrate it in institutions requires presence policies clear and supervision human to ensure usage the ideal and with that, it indicates studies to that this is amazing technologies represent transformation radically in future education and work, especially in institutions academy and libraries digital, where contributes in re formation ways access to knowledge and its management In a way more efficiency and flexibility [9].

3.2 Learning Self For employees: the concept, Importance, and factors Influential in environments the job Modern:

It means by learning self for employees ability on acquisition knowledge and skills In a way independent don accreditation the whole on programs training official, where depends employee on the initiative Individual in search and learning continuous using sources digital and technologies modern. It is considered this the concept one pillars basic in development head the money human inside Institutions modern, so allows for employees adaptation with changes fast in environment the job and requirements transformation digital. As well it is related learning self related close with intelligence artificial and tools digital that contributes in to provide environments to learn flexible interactive supports development professional continuous [10].

Sources importance learning self from being tool strategy to raise efficiency employees and improving their performance job in shadow changes accelerated in environment business. It is contributes in strengthening ability on adaptation with technologies modern, and reduces from gap cognitive between requirements the job and skills available I have the employees. As well It is means effective to support learning continuous don The need to programs training expensive or traditional, especially in Institutions that Heading about digitalization. It indicates studies to that strengthening learning self It is related In a way direct by increasing motivation interior have Individuals to develop their skills professional and technology [11].

Affected learning self several factors inside environment the job, from the most important of them availability structure infrastructure digital, and level support administrative, and extent readiness employees for use technologies modern. As well play trends psychology cognitive dora whatever, like trust with ability on learning self and efficiency self in use tools digital and it confirms atudies that to merge intelligence artificial in environments training enhances from ready employees to learn Independent from during to provide to support immediate and interactive. Hence for success learning self depends on interaction factors organizational and individual and technology together [12].

Intelligence artificial and technologies become smart worker pivotal in strengthening learning self inside Institutions modern, where availability this is amazing technologies environments to learn interactive capable on conditioning content according to needs the learner. As well contributes in presentation nutrition returning immediately, analysis performance users, and guiding them about paths to learn more effective. It is considered to merge This is amazing tools in environment the job step a task about building system to learn sustainable supports development professional continuous for employees, especially in fields that requires update always for skills and knowledge [13].

On despite from advantages the large to learn self, unless that it faces number from challenges in environments the job, from the most prominent of them weakness motivation I have some employees, and few support Institutional, and not availability skills digital

sufficient have everyone. As well. that application learning self supported with intelligence artificial requires structure organizational clear and policies supports usage the effective for technologies modern. It indicates some studies to that success programs;earning self depends in a way big on bezel readiness Individuals and institutions to adopt technologies digital, addition to to provide environment educational motivating and safe [14].

3.3 Development Skills Digital For employees: the concept, Dimensions, and requirements Transformation Digital:

It indicates skills digital for employees to group abilities and knowledge that was able individual from use technologies digital and tools smart efficiently in environment the job, In what in that dealing with software, analysis data, and use systems Information and interaction with technologies intelligence artificial. It is considered this the concept part basically from the concept of "knowledge" digital with intelligence artificial that focuses on capacity employee on to understand how to a job systems smart and interaction with her In a way effective. Also it became this is amazing skills necessity urgent in shadow transformation digital accelerated, where it depends Institutions modern In a way big on technologies digital in administration operations and taking the decision [15].

It consists skills digital from several dimensions main include distance cognitive related with understanding technologies digital, and distance practical related with the ability employee on use tools technology, and distance analytical that focuses on explanation data and taking decisions, addition to distance ethical that guarantees usage responsible for technologies modern. As well that evolution in environments the job digital requires to merge this is amazing dimensions within framework comprehensive enhances from efficiency employees in dealing with systems smart and it indicates studies to that strengthening this is amazing dimensions contributes in to lift level performance institutional and increase productivity [16].

It is concept erase illiteracy with intelligence artificial from concepts modern that It is related related close developing skills digital, and he points to capacity Individuals on to understand and interpretation and use technologies intelligence artificial in environments the job the different ones and it includes this the concept group from competencies like thinking cash towards outputs systems smart, and he understood mechanism a job algorithms, and interaction effective with tools smart. As well it is this type from knowledge necessary for employees in institutions digital, because help them on taking decisions more accuracy and awareness when use technologies modern times. [17].

Measurement skills Digital and erase illiteracy with intelligence artificial become axis whatever in studies modern, where it was completed development measurements scientific to determine level efficiency users in dealing with technologies smart and it is used this is amazing measurements to assess aspects cognitive behavior and morality for skills digital, which helps Institutions on to set points power and weakness have the employees. As well contributes this is amazing tools in design programs training directed to improve efficiency digital and strengthening ability on adaptation with environments the job digital variable continuously [18].

Requires transformation digital in institutions to provide environment supportive for development skills digital, include training continuous, providing structure Infrastructure technology, and strengthening culture digital between the employees. As well that success this transformation depends on capacity institutions on to merge intelligence artificial in operations daily In a way effective and ethical. It indicates research to that development skills digital no it is limited on side technician only, but rather includes also aspects behavior cognitive and ethics, which guarantees usage responsible for technologies modern and strengthens from readiness employees for requirements the future digital [19].

3.4 The Relationship between intelligence artificial Generative (GenAI) and Learning Self and development Skills Digital For employees:

It indicates literature modern to that intelligence artificial the generative (GenAI) has become worker pivotal in strengthening learning self have employees from during to provide environments to learn Interactive existing on dialogue Immediate and guidance the intelligent one. Because allows this type from technologies for the learner access to knowledge in any time and from any place, which enhances his independence in learning and reduces accreditation on training traditional. As well contributes systems the conversation smart in directing employee about sources to learn suitable for his level, presentation explanations dedicated it agrees with his needs professionalism, it is what makes Learning more flexibility and continuity [7].

It is related use intelligence artificial obstetric related close developing skills digital have employees, where contributes in strengthening what it is known by erasing illiteracy digital for intelligence artificial, which include to understand how to a job systems smart and interaction with her efficiently and performs use this is amazing technologies in environment the job to to lift level consciousness employees with technologies modern, and development their ability on analysis outputs systems smart And its use in taking the decision. As well that this Interaction continuous with tools smart enhances from efficiency employee digital and makes it more In preparation for requirements transformation digital [17].

Contributes intelligence artificial obstetric in strengthening style learning standing on discovery from during enabling learners from exploration knowledge themselves via interaction with systems smart. Where availability tools like ChatGPT environment educational allow by offering questions analysis answers and discovery relations between concepts, which enhances from thinking cash and creative have the employees. As well that this type from learning raise from level participation effective and makes learner axis the process educational instead from being receiving only [20].

Show studies that use intelligence artificial obstetric contributes in development skills digital cash have individuals, from during strengthening their ability on evaluation information digital and its analysis In a way conscious. As helps in development skills thinking cash towards outputs systems smart, which reduces from accreditation not conscious on results intelligence artificial. It is considered this side whatever in a way private in environments the job that it depends on data, where needs employee to discrimination between information minute and other minute and taking decisions built on analysis logical [21].

Affected relationship between intelligence artificial obstetric and learning self also factors psychology like motivation self and efficiency self have employees, where play this is amazing factors dora basically in bezel accept them for use technologies modern. As wellthat design environments to learn It depends on intelligence artificial according to theory to set self contributes in Strengthening Independence and motivation Interior have learners, which leads to to improve continuity learning and development skills digital In a way effective. Therefore for success GenAI in to support learning Self He depends on integration aspects technology psychology organizational [22].

4. The applied aspect of the research

4.1 Research population and sample:

It consists community search from staff in body distribution products oil in region euphrates middle, as from institutions the mission in sector energy services in Iraq. As for sample search Lost It was completed choice in a way It fits with goals search and his hypotheses, where it included (142) individuals from staff in the authority in what guarantees representation suitable for the community the research and it it was completed numbers questionnaire especially by studying it agrees with requirements search scientific, and it was Its design In picture minute to measure variables approved in study.

Then It was completed distribution of (142) forms on individuals sample targeted with the aim collection data necessary for analysis statistician and after finish from practical retrieval and collected forms, it became clear (140) forms was valid for analysis statistician, in when it was completed exclusion two forms for lack of completion data or presence loss in the answers and so it reached rate recovery rate (98.6%), It is rate high very reflect level high from cooperation seriousness have individuals the sample, which enhances reliability data and its accuracy, and contributes in to lift quality results extracted from the study. As well It was completed design paragraphs questionnaire and its formulation In a way scientific allows transformation answers to values amount midwife for measurement and analysis statistician, that's using gauge likert pentatonic that gradual From (1) to (5), which It is easy practical analysis and test hypotheses and it is considered this style from methods the rumor in research field when It provides from accuracy and flexibility in measurement bearings and opinions the participants. The face validity of the instrument was also verified using cronbach's alpha test, as shown in the following table:

Table 1. Cronbach's coefficient Alpha for search variables.

No.	Variables	Number of Items	Cronbach's Alpha Coefficient
1	Generative Artificial Intelligence (GenAI)	6	0.922
2	Self-Learning	6	0.896
3	Employees' Digital Skills	6	0.887
	Average	6	0.902

Source: Prepared by The researcher.

It becomes clear from table above that values coefficient cronbach's alpha For variables search came high In a way general, which It indicates on presence degree high from consistency Interior between paragraphs measurements used in the study. because reached coefficient steadfastness variable intelligence artificial the generative value (GenAI) (0.922) is level high reflects power scale in measurement variable accurately reliability high. Also register variable learning self-value it reached (0.896), It is value good It indicates to consistency paragraphs and its ability on measurement the concept In a way stable. As for variable skills digital for employees lost achieved value (0.887), which enhances reliability the tool used in measurement this the variable and in a way general, reached average the whole for the factory cronbach alpha (0.902) is index strong it indicates on that tool search enjoy degree high from steadfastness and the validity, which makes results extracted from data field trusted and midwife for accreditation in explanation relations between variables search.

4.2 Results of distributing the questionnaire and analyzing the demographic characteristics of the research sample:

Used analysis demographics to explain distribution properties in the society or the society to understand it, presentation suggestions suitable prediction In the future the society or group. Analysis demographics important because gives information useful maybe using it to take decisions good specific to the research variables. Table 2 shows the results of distributing the questionnaire lists to the research sample.

Table 2. Results of distributing the questionnaire lists to the research sample members.

Statement	Number	Percentage (%)
Distributed questionnaires	142	100%
Retrieved and analyzable questionnaires	140	98.6%
Non-returned questionnaires	2	1.4%

Source: Prepared by The researcher.

It becomes clear from table above that practical distribution and collected questionnaires may I achieved rate response high, which reflects interest Individuals sample and their cooperation with the researcher. Since reached number questionnaires distributed (142) questionnaires by (100%) in when reached number questionnaires recovered and the midwife for analysis (140) questionnaires by (98.6%) It is rate It is High very and it indicates on reliability data the complex and its validity For analysis Statistician. As for questionnaires not recovered lost it reached only (2) By (1.4%) It is rate tiny no effect on acting sample or accuracy the results. and reflect this level high from response success practical communication with Individuals the sample, addition to clarity tool search and ease understood it. As well. that to rise rate recovery enhances from power results extracted later, and it increases from possibility accreditation on it in explanation relations between variables the study related with intelligence artificial obstetric and learning self and skills digital for employees. The demographic characteristics of the research sample can also be analyzed using table (3):

Table 3. Analysis of the demographic characteristics of the research sample.

No.	Variable	Classification	Number	Percentage (%)
1	Age	30–40 years	12	8.57
		41–50 years	97	69.29
		More than 50 years	31	22.14
2	Gender	Male	94	67.14
		Female	46	32.86
3	Academic Qualification	Diploma or less	23	16.43
		Bachelor's degree	81	57.86
		Master's degree or higher	36	25.71
4	Years of Experience	5–10 years	18	12.86
		11–15 years	96	68.57
		More than 15 years	26	18.57

Source: Prepared by The researcher.

It becomes clear from table above that individuals sample search they enjoy with diversity demographic reflects representation well for different categories functional in body distribution products oil in erupts the middle. Meanwhile it relates with a variable the age, It is observed that ratio the largest from sample located within the (41–50 years) category, at a rate of (69.29%), which It indicates to that majority employees from those experience relativity in environment the job, in when it reached rate Category (more) (Of 50 years old) (22.14%) while She was Category The youngest (30–40 years old) represents only 8.57%. variable Sex, It is noticed superiority males by a percentage of (67.14%) compared to (32.86%) for females is what reflects nature composition Job in Institutions the character service-oriented and in what regarding qualification scientific, lost appearance campaign bachelor's ratio The largest (57.86%), they follow campaign master's higher By (25.71%) then diploma so less by (16.43%) Which It indicates on to rise level educational for the sample. As for years' experience, lost showed results that most individuals sample they have expertise ranges Between (11–15 years old) by (68.57%), which enhances reliability their opinions, in when distributed lineage the other on categories are (5-10 years) and (over from 15 years old).

4.3 Descriptive statistics for research variables:

Descriptive statistics for the intelligence variable can be illustrated artificial the generative value, with respect to the arithmetic mean, percentage, and standard deviation, is shown in the following table:

Table 4. Descriptive statistics for the intelligence variable artificial obstetric.

No.	Phrase	Arithmetic Mean	Percentage (%)	Standard Deviation
1	Generative artificial intelligence contributes to supporting employees by providing smart tools that help them produce content, analyze data, and develop ideas quickly and efficiently in the modern work environment.	4.30	86%	0.68
2	Using generative artificial intelligence applications helps to facilitate the performance of routine tasks for employees, allowing them to focus on creative work and making more complex decisions in the organization.	4.15	83%	0.72
3	Generative artificial intelligence provides smart solutions that help employees improve work quality and reduce errors by providing accurate suggestions and analyses based on available data.	4.25	85%	0.70
4	GenAI contributes to enhancing employee efficiency by accelerating the completion of daily tasks and providing immediate support in preparing reports, drafting content, and effectively analyzing complex information.	4.20	84%	0.73
5	Using generative artificial intelligence in the workplace improves the ability to innovate by providing tools that help generate new ideas and innovative solutions to problems.	4.10	82%	0.75
6	Generative artificial intelligence helps employees to learn continuously by providing customized training content and instant answers that contribute to the advanced development of their professional skills.	4.35	87%	0.67
	Overall Average	4.22	84.5%	0.71

Source: Prepared by the researcher.

It becomes clear from table above that level perception Individuals sample for the role intelligence artificial the generative (GenAI) came high In a way general, so reached average calculation the total (4.22) and the percentage percentile (84.5%), which it indicates to deal clear on importance this is amazing technologies in environment work. As well it is observed that phrase private GenAI in to support Learning continuous providing content training custom got on higher middle account (4.35) and percentage (87%), which reflects realization large have employees Due to the importance This is amazing Technologies in development their skills Professionalism. In contrast, came phrase related By strengthening Innovation at the lowest middle account Relatively (4.10) and at a rate of (82%), despite survival within level high. Also It is clear that rest paragraphs I registered values close in the circles calculation and deviations standardization, which it indicates on homogeneity responses individuals sample and stability their opinions around role

intelligence artificial obstetric in to improve performance, and simplification tasks, and raised efficiency the job inside the institution.

Descriptive statistics for the learning variable can be illustrated subjectivity in relation to the arithmetic mean, percentage, and standard deviation is shown in the following table:

Table 5. Descriptive statistics for the learning variable Self.

No.	Phrase	Arithmetic Mean	Percentage (%)	Standard Deviation
1	Employees increasingly rely on self-learning to develop their professional skills through online research and training courses without the need for continuous direct supervision.	4.25	85%	0.71
2	Self-learning contributes to enhancing employees' ability to acquire new knowledge at a pace that keeps up with the rapid technological changes in modern and advanced work environments.	4.30	86%	0.69
3	Self-learning helps employees improve their job performance by developing their skills independently and using diverse knowledge resources available across various digital platforms.	4.20	84%	0.73
4	Self-learning allows employees to adapt to modern technological developments by continuously acquiring new skills without relying entirely on traditional training.	4.15	83%	0.75
5	Self-learning enhances employee independence in acquiring professional knowledge, contributing to higher efficiency and productivity within the institutional work environment.	4.10	82%	0.78
6	Self-learning contributes to enabling employees to meet the challenges of modern work by developing critical thinking and problem-solving skills individually and effectively.	4.28	85.6%	0.70
	Overall Average	4.21	84.3%	0.73

Source: Prepared by the researcher.

It becomes clear from table above that level learning self-have individuals sample came high In a way general, so reached average calculation the total (4.21) and the percentage percentile (84.3%), which It indicates on presence direction positive about adoption methods learning self in environment work. As well. It is observed that phrase related with the ability learning self on strengthening acquisition knowledge new quickly keeping up for changes technology got on higher middle account (4.30) and percentage (86%), which reflects realization clearly due to the importance learning continuous in confrontation developments technology. In when registered phrase private by strengthening Independence in learning less middle account (4.10) and a percentage of (82%) but it remained within level high also. It is clear from results rapprochement values

statistics between paragraphs, with deviations standard close relatively, which It indicates to homogeneity Responses Individuals sample consistency their opinions around importance learning self in to improve performance functional, and strengthening skills, and increase ability on adaptation with environment the job the variable.

Descriptive statistics for the skills variable can be illustrated digital for employees, the arithmetic mean, percentage, and standard deviation are calculated using the following table:

Table 6. Descriptive statistics for the skills variable Digital For employees.

No.	Phrase	Arithmetic Mean	Percentage (%)	Standard Deviation
1	Employees possess digital skills that enable them to use electronic applications and systems with high efficiency in accomplishing daily tasks within the modern corporate work environment.	4.20	84%	0.72
2	Digital skills contribute to improving employees' ability to handle and analyze data using advanced technological tools that support better administrative decision-making.	4.15	83%	0.75
3	Digital skills help employees communicate effectively across electronic platforms, which enhances collaboration between work teams inside and outside the organization on an ongoing basis.	4.30	86%	0.70
4	Having digital skills enables employees to use artificial intelligence systems and modern technologies to significantly and effectively improve the quality of job performance.	4.10	82%	0.78
5	Digital skills contribute to increasing the speed of task completion and reducing operational errors through the use of advanced digital programs and applications in the work environment.	4.25	85%	0.73
6	Digital skills help employees adapt to digital transformation within organizations by developing their technical capabilities and keeping up with ongoing technological developments.	4.35	87%	0.69
	Overall Average	4.22	84.5%	0.73

Source: Prepared by the researcher.

It becomes clear from table above that level skills digital have employees came high In a way general, so reached average calculation the total (4.22) and the percentage percentile (84.5%), which It indicates on possession Individuals sample level good from efficiency digital necessary to perform their tasks functional. As well it is observed that phrase related with the ability skills digital on adaptation with transformation digital inside institutions got on higher middle my account (4.35) and percentage (87%) which

reflects awareness clearly importance evolution technician Continuous. In when registered phrase private using technologies intelligence artificial in to improve Performance job less middle account (4.10) and a percentage of (82%). despite her survival within level high. Also It indicates results to rapprochement values statistics between paragraphs, with deviations standard close relatively, which it indicates on homogeneity responses Individuals sample and their agreement on importance skills digital in to improve performance, and strengthening communication, and support taking decision, and keeping pace requirements transformation digital in environment the job modern.

4.4 Testing the correlation between the research variables:

the Pearson correlation coefficient between the research variables can be illustrated as shown in the following table:

Table 7. Pearson correlation coefficient value between research variables.

Correlations			
Variables	**GenAI**	**Self-Learning**	**Digital Skills of Employees**
GenAI	1	0.985**	0.903**
Sig. (2-tailed)	–	0.000	0.000
N	85	85	85
Self-Learning	0.985**	1	0.889**
Sig. (2-tailed)	0.000	–	0.000
N	85	85	85
Digital Skills of Employees	0.903**	0.889**	1
Sig. (2-tailed)	0.000	0.000	–
N	85	85	85
*Correlation is significant at the 0.01 level (2-tailed).			

Source: Prepared by the researcher.

It becomes clear from table above presence relationships correlation positive strong function statistically between variables search the three, so it reached value coefficient link between intelligence artificial generative (GenAI) and learning self (0.985), it is relationship strong very it indicates to that more use technologies intelligence artificial It is related In a way direct high level learning self-have the employees. As well it is observed presence relationship correlation strong between intelligence artificial obstetric and skills digital for employees it reached (0.903), Which It indicates on that adoption this is amazing technologies Contributes In a way clear in development competencies digital. In when showed results also presence relationship correlation positive strong between learning self and skills digital It reached (0.889), which reflects Interdependence the document between acquisition knowledge in a way independent and development abilities technology. As well. that all values came when level Significance (0.01), which confirms moral relations Statistics and its reliability and in a way general, It indicates this is amazing results to presence integration clear between variables the three, where works intelligence artificial obstetric as a factor stimulant to promote learning self, which In turn contributes in to lift level skills digital for employees inside environment the job.

4.5 Testing the effect relationship between research variables:

The effect between the research variables can be tested, as shown in the following table:

Table 8. Testing the effect relationship between research variables.

Variables	R	R^2	F	Sig. (F)	β	T	Sig. (T)
Generative Artificial Intelligence (GenAI) → Self-Learning	0.985	0.970	174.24	0.000	0.59	16.973	0.000

Generative Artificial Intelligence (GenAI) → Digital Skills of Employees	0.903	0.815	169.15	0.000	0.51	14.284	0.000

Source: Prepared by the researcher.

It becomes clear from table above presence effect moral strong very for intelligence artificial genital (GenAI) in variable learning self and skills digital for employees, so showed results analysis decline that value coefficient correlation (R) between GenAI and learning self It reached (0.985), with coefficient the interpretation of (R^2) reached (0.970), which meaning that intelligence artificial obstetric explains what Its percentage (97%) of Changes the result in Learning self, is level high very It indicates on power the effect. As well. It reached the value of (F) is (174.24) and at a level Significance (0.000) which confirms moral the model statistician, in when register coefficient the effect (β) value is (0.59) and is significant moral high, which Proves presence impact positive live and while regarding relationship between GenAI and skills digital, Lost It reached the values of (R) (0.903) and (R^2) (0.815), which It indicates to that intelligence artificial obstetric (81.5 %) of Change in Skills Digital, with the value of (F) was (169.15) and the significance was (0.000). and coefficient the effect of (β) was (0.51), which is also dal statistically and based on this is amazing results, it is acceptance all hypotheses search the alternative that it states on presence effect moral positive for intelligence artificial obstetric in strengthening learning self and development skills digital refused hypotheses nothingness, which confirms importance GenAI As a factor pivotal in development abilities functional inside environment the job

5. Conclusions

a. Intelligence artificial gamogenetic effect (GenAI) strong and positively in strengthening learning self-have employees, which It indicates on his ability in to support environments learning continuous and development knowledge professional In a way effective inside the institution.
b. Contributes use GenAI In a way big in development skills digital for employees from during to improve their ability on dealing with systems digital analysis data, which enhances their readiness for requirements transformation digital in environment the job modern.
c. Relationship correlation strong between learning self and skills digital, which it indicates to that strengthening one the two variables leads In a way direct to improve the other inside environment the job institutionalization.
d. That level consciousness employees Importance intelligence artificial obstetric high relatively, unless that there disparity in usage actual for this technologies between employees inside the authority.
e. That environment the job in authority possess capability good to adopt technologies intelligence artificial obstetric, unless that it need to support organizational and technical greater to ensure usage optimum for this tools.
f. That intelligence artificial obstetric it represents worker pivotal in to improve performance Job from during integrate it with programs learning self-training digital inside the organization should be structured in a way that is compatible with the diverse changes in the contemporary business environment.

Recommendations:

a. Adoption body distribution products oil programs training it depends on intelligence artificial obstetric to promote learning self-have employees and development their skills professional In a way continuous and effective.
b. Work on to lift level skills digital for employees from during to organize courses training specialized in use tools intelligence artificial and technologies digital modern inside environment working and adapting to the various changes that accompany it .

c. Strengthening culture learning self between employees from during encouraging them on use platforms education electronic and applications GenAI in development their abilities in a way independent.
d. Providing structure under digital advanced inside authority supports use technologies intelligence artificial obstetric it included ease access to her from before all employees in a way that achieves satisfaction for all beneficiaries.
e. Placement policies organizational clear for use intelligence artificial obstetric In what guarantees usage safe and effective for this technologies in to improve performance institutional, and thus achieving the set goals with high efficiency and effectiveness.
f. Encouragement administration upper on to support projects transformation digital and merge intelligence artificial in operations administrative and training to achieve efficiency higher in performance institutional and raised level yield, and strengthening ability competitiveness for the institution in environment the job modern and variable constantly.

REFERENCES

[1] A. Al-Jabir, "Generative Artificial Intelligence and Its Role in Improving the Quality of Digital Educational Content," *Int. J. Sci. Technol.*, 2025.

[2] I. A. Khalaf, "Future Trends in Training under Artificial Intelligence Applications: An Exploratory Study," *Ahliya J. Bus. Technol. MEAN Econ.*, vol. 2, no. 1, pp. 15–16, 2025.

[3] A. A. Al-Suhaimi, F. bin Salim Al-Hafdi, and B. bin Rafi Al-Shehri, "The Impact of Using Generative Artificial Intelligence Techniques Based on Discovery Learning Patterns in Developing Digital Literacy among Secondary School Students," *JALHSS*, 2025, doi: 10.33193/JALHSS.124.2025.1498.

[4] Y. bint Mohammed bin Salim Al-Mughairiyah and R. bint Mohammed bin Salim Al-Mughairiyah, "Generative Artificial Intelligence and Its Role in Developing Future Skills among Gifted Students," *Educ. Psychol. Stud. Ser.*, vol. 6, no. 8, pp. 196–215, 2025.

[5] OpenAI, "ChatGPT: Optimizing language models for dialogue," 2024.

[6] D. R. Santhosh, M. M. Abinaya, D. V Anusuya, and D. Gowthami, "ChatGPT: Opportunities, features and future prospects," in *2023 7th International Conference on Trends in Electronics and Informatics (ICOEI)*, 2023, pp. 1614–1622.

[7] F. S. Al-Hafdi and S. M. Al-Najdi, "The effectiveness of using chatbot-based environment on learning process, students' performances and perceptions: A mixed exploratory study," *Educ. Inf. Technol.*, vol. 29, pp. 20633–20664, 2024.

[8] T. Alharbi, F. Al-Hafdi, and W. Alhalafawy, "Exploring the framework for intelligent operations (FiOps) for teachers in the era of generative AI (GenAI)," *Int. J. Learn. Teach. Educ. Res.*, vol. 24, no. 8, pp. 942–964, 2025.

[9] A. Houston and E. Corrado, "Embracing ChatGPT: Implications of emergent language models for academia and libraries," *Tech. Serv. Q.*, vol. 40, pp. 76–91, 2023.

[10] N. Yannier and K. R. Koedinger, "Active learning with AI support," in *Active Learning with AI Support*, 2021, pp. 1–15.

[11] Y. Y. Wang and Y. W. Chuang, "Artificial intelligence self-efficacy: Scale development and validation," *Educ. Inf. Technol.*, vol. 28, pp. 1–24, 2023.

[12] M. A. Ayanwale, I. T. Sanusi, P. Adelana, K. Aruleba, and S. S. Oyelere, "Teachers' readiness and intention to teach artificial intelligence in schools," *Comput. Educ. Artif. Intell.*, 2022.

[13] I. Celik, "Towards Intelligent-TPACK: An empirical study on teachers' professional knowledge to ethically integrate artificial intelligence (AI)-based tools into education," *Comput. Human Behav.*, vol. 138, p. 107468, 2023.

[14] F. M. Alnimran and W. S. Alhalafawy, "Qualitative exploration of the opportunities and challenges of online training according to the behavioral intention variables of the most trained teachers during the COVID-19 pandemic," *J. Infrastructure, Policy Dev.*, vol. 8, no. 8, p. 4837, 2024.

[15] D. Long and B. Magerko, "What is AI literacy? Competencies and design considerations," in *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 2020, pp. 1–16.

[16] D. T. K. Ng, J. K. L. Leung, S. K. W. Chu, and M. S. Qiao, "Conceptualizing AI literacy: An exploratory review," *Comput. Educ. Artif. Intell.*, vol. 2, p. 100041, 2021.

[17] D. Cetindamar, K. Kitto, M. Wu, Y. Zhang, B. Abedin, and S. Knight, "Explaining AI literacy of employees at

digital workplaces," *IEEE Trans. Eng. Manag.*, vol. 71, pp. 810–823, 2022.

[18] B. Wang, P.-L. P. Rau, and T. Yuan, "Measuring user competence in using artificial intelligence: validity and reliability of artificial intelligence literacy scale," *Behav. \& Inf. Technol.*, vol. 42, no. 9, pp. 1–14, 2022, doi: 10.1080/0144929x.2022.2072768.

[19] D. T. K. Ng, W. Wu, J. K. L. Leung, T. K. F. Chiu, and S. K. W. Chu, "Design and validation of the AI literacy questionnaire: The affective, behavioural, cognitive and ethical approach," *Br. J. Educ. Technol.*, vol. 55, pp. 1082–1104, 2024.

[20] I. D. Sudirman and I. Rahmatillah, "Artificial intelligence-assisted discovery learning: An educational experience for entrepreneurship students using ChatGPT," in *IEEE World AI IoT Congress (AIIoT)*, 2023, pp. 786–791.

[21] T. Nghi and H. Tran, "Exploring the role of ChatGPT in developing critical digital literacies in language learning: A qualitative study," in *Proceedings of the AsiaCALL International Conference*, 2023.

[22] Q. Xia, T. K. Chiu, M. Lee, I. T. Sanusi, Y. Dai, and C. S. Chai, "A self-determination theory (SDT) design approach for inclusive and diverse artificial intelligence (AI) education," *Comput. \& Educ.*, vol. 189, p. 104582, 2022.